

Checkpoint

(Week 3)

Saturday (4/11/2023):

- We took set theory, mathematical functions, polynomials, and trigonometry.
- Read about easing and tried solving the moving circle easing.

Sunday (5/11/2023):

- We took a quick revision on what we last stopped at trigonometry and completed it, we then talked about analytic geometry and vectors.
- Tried solving the task which were given (parallax)

Monday (6/11/2023):

- Revised more about SFML from the documentation to solve the task (jump).
- Tried solving pacman

Tuesday (7/11/2023):

- We revised on vectors and talked about matrix, transformation mathematics, and quaternion mathematics.
- Completed the task (pacman).

Wednesday(8/11/2023):

- I had an online meeting with my OOP project's team to talk about what we will do on the class diagram of the indie and AAA games and discussed some ideas.
- Researched about the class diagram and the relationships :
<https://creately.com/guides/class-diagram-relationships/#directed-association>
- Tried solving the problem solving task but there was an error that kept appearing:

```
Runtime Error Message: =====  
==22==ERROR: AddressSanitizer: negative-size-param: (size=-4)  
#5 0x7f647ee48082 (/lib/x86_64-linux-gnu/libc.so.6+0x24082)  
0x6020000003d8 is located 0 bytes to the right of 8-byte region [0x6020000003d0,0x6020000003d8)  
allocated by thread T0 here:  
#6 0x7f647ee48082 (/lib/x86_64-linux-gnu/libc.so.6+0x24082)  
==22==ABORTING
```

Thursday(9/11/2023):

- We took the difference between kinematics and dynamics. We talked about slope, Newton's law, and making our physics engine as well.
- Read about the difference between enums and structs:
<https://www.geeksforgeeks.org/difference-between-struct-and-enum-in-c-c-with-examples/>
- Read about how to represent a relationship with enums:
<https://www.educative.io/answers/enumeration-in-uml-class-diagrams>
- Worked on our class diagram project.

Friday(10/11/2023):

- We worked on our physics engine and add more classes in it.
- Organized my checkpoint.
- Revised vector and it's built in functions:
<https://www.geeksforgeeks.org/vector-in-cpp-stl/>
- Solved the problem on leetcode (Merge sort array) after coming up with a new solution after finding about the built in function sort().